IN THE CLAIMS:

Please amend claims 1, 9 through 12, 20, and 21 as follows:

1. (CURRENTLY AMENDED)   A method of part flow ~~model~~ for a programmable logic controller logical verification system, said method comprising the steps of:

constructing a <u>simulation model of a</u> part flow ~~model~~ <u>in a manufacturing line</u> <u>using a computer</u>;

determining ~~whether~~ <u>if</u> the part flow <u>represented in the simulation</u> model is ~~acceptable~~ <u>correct</u>; and

using the part flow <u>simulation</u> model to test PLC code <u>and implementing</u> ~~to build~~ ~~a~~ <u>the</u> manufacturing line <u>according to the part flow simulation model</u>.

2. (ORIGINAL)   A method as set forth in claim 1 wherein said step of constructing comprises selecting a part generator.

3. (ORIGINAL)   A method as set forth in claim 2 wherein said step of constructing further comprises generating a part with the part generator.

4. (ORIGINAL)   A method as set forth in claim 3 wherein said step of constructing further comprises moving the generated part to a location.

5. (ORIGINAL)   A method as set forth in claim 4 wherein said step of constructing further comprises testing the generated part at the part location.

6. (ORIGINAL)   A method as set forth in claim 1 wherein said step of constructing comprises constructing a record for the part.

7. (ORIGINAL)   A method as set forth in claim 6 wherein the record has at least one resource.

8. (ORIGINAL)   A method as set forth in claim 7 wherein the at least one resource has at least one capability.

9. (CURRENTLY AMENDED)   A method as set forth in claim 1 including the step of generating PLC code if the part flow represented in the simulation model is ~~acceptable~~ correct.

10. (CURRENTLY AMENDED)   A method as set forth in claim 1 including the step of modifying the part flow represented in the simulation model if the part flow represented in the simulation model is not ~~acceptable~~ correct.

11. (CURRENTLY AMENDED)   A method as set forth in claim 1 wherein said step of constructing further comprises ~~playing~~ executing the simulation model of the part flow ~~model by~~ , wherein the simulation model interacts with a PLC logical verification system.

12. (CURRENTLY AMENDED)   A method for application of a part flow ~~model~~ for a programmable logic controller logical verification system, said method comprising the steps of:

constructing a <u>simulation model of a</u> part flow ~~model~~ <u>in a manufacturing line</u> <u>using a computer</u>;

~~playing~~ <u>executing the simulation model of</u> the part flow ~~model by~~ <u>, wherein the</u> <u>simulation model interacts with</u> a PLC logical verification system;

determining ~~whether~~ <u>if</u> the part flow ~~model is acceptable~~ <u>represented in the</u> <u>simulation model is correct</u>;

testing PLC code if the part flow <u>simulation</u> model is ~~acceptable~~ <u>correct</u>; and

using the tested PLC code ~~to build a~~ <u>and implementing the</u> manufacturing line <u>according to the part flow simulation model</u>.

13. (ORIGINAL)   A method as set forth in claim 12 wherein said step of constructing comprises selecting a part generator.

14. (ORIGINAL)   A method as set forth in claim 13 wherein said step of constructing further comprises generating a part with the part generator.

15. (ORIGINAL)   A method as set forth in claim 14 wherein said step of constructing further comprises moving the generated part to a location.

16. (ORIGINAL)   A method as set forth in claim 15 wherein said step of constructing further comprises testing the generated part at the part location.

17. (ORIGINAL)   A method as set forth in claim 12 wherein said step of constructing comprises constructing a record for the part.

18. (ORIGINAL)   A method as set forth in claim 17 wherein the record has at least one resource.

19. (ORIGINAL)   A method as set forth in claim 18 wherein the at least one resource has at least one capability.

20. (CURRENTLY AMENDED)   A method as set forth in claim 1 including the step of modifying the part flow represented in the simulation model if the part flow represented in the simulation model is not acceptable correct.

21. (CURRENTLY AMENDED)   A method for application of a part flow model for a programmable logic controller logical verification system, said method comprising the steps of:

constructing a simulation model of a part flow model in a manufacturing line using a computer by selecting a part generator, generating a part with the part generator, and moving the generated part to a location;

playing executing the simulation model of the part flow model by , wherein the simulation model interacts with a PLC logical verification system;

determining whether if the part flow represented in the simulation model is acceptable correct;

modifying the part flow represented in the simulation model if the part flow represented in the simulation model is not acceptable correct;

testing PLC code if the part flow simulation model is acceptable correct; and

using the tested PLC code ~~to build a~~ <u>and implementing the</u> manufacturing line <u>according to the part flow simulation model</u>.